

ATTORNEY DOCKET NO.: ASC-043C2

INFORMATION DISCLOSURE STATEMENT

APPLICANT(S): Fitzgerald et al.

SERIAL NO.: 10/625,018

2822

FILING DATE: July 23, 2003 GROUP:-Not-yet assigned

U.S. PATENT DOCUMENTS CLASS EXAM. DOCUMENT DATE NAME SUB **FILING DATE IF** INIT. NUMBER APPROPRIATE **CLASS** 4,010,045 03/01/1977 Ruehrwein A1 4,710,788 12/01/1987 Dämbkes et al. A2 4,990,979 02/05/1991 **A3** Otto 4,997,776 03/05/1991 Harame et al. A4 5,013,681 05/07/1991 Godbey et al. Α5 10/13/1992 5,155,571 Wang et al. A6 11/24/1992 Pfiester 5,166,084 Α7 5,177,583 01/05/1993 Endo et al. Α8 5,202,284 04/13/1993 Kamins et al. Α9 5,207,864 05/04/1993 Bhat et al. A10 05/04/1993 5,208,182 Narayan et al. All 5,212,110 05/18/1993 Pfiester et al. A12 5,221,413 06/22/1993 Brasen et al. AI3 5,241,197 08/31/1993 Murakami et al. A14 5,250,445 10/05/1993 Bean et al. A15 5,285,086 02/08/1994 Fitzgerald A16 5,291,439 03/01/1994 Kauffmann et al. A17 5,298,452 03/29/1994 Meyerson A18 5,310,451 05/10/1994 Tejwani et al. A19 5,316,958 05/31/1994 A20 Meyerson 5,346,848 09/13/1994 Grupen-Shemansky et al. A21 5,374,564 12/20/1994 Bruel A22 5,399,522 03/21/1995 Ohori A23

EXAMINER

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U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
KBD	A24	5,413,679	05/09/1995	Godbey			
	A25	5,426,069	06/20/1995	Selvakumar et al.			
	A26	5,426,316	06/20/1995	Mohammad			
	A27	5,442,205	08/15/1995	Brasen et al.			
	A28	5,461,243	10/24/1995	Ek et al.			
	A29	5,461,250	10/24/1995	Burghartz et al.			
	A30	5,462,883	10/31/1995	Dennard et al.			
	A31	5,476,813	12/19/1995	Naruse			
	A32	5,479,033	12/26/1995	Baca et al.			
	A33	5,484,664	01/16/1996	Kitahara et al.		-	
	A34	5,523,243	06/04/1996	Mohammad			
	A35	5,523,592	06/04/1996	Nakagawa et al.			
	A36	5,534,713	07/09/1996	Ismail et al.			
	A37	5,536,361	07/16/1996	Kondo et al.			
	A38	5,540,785	07/30/1996	Dennard et al.			
	A39	5,596,527	01/21/1997	Tomioka et al.	-		
	A40	5,617,351	04/01/1997	Bertin et al.			
	A41	5,630,905	05/20/1997	Lynch et al.			
	A42	5,659,187	08/19/1997	Legoues et al.			
	A43	5,683,934	11/04/1997	Candelaria			
	A44	5,698,869	12/16/1997	Yoshimi et al.			
	A45	5,714,777	02/03/1998	Ismail et al.			
+	A46	5,728,623	03/17/1998	Mori			
+	A47	5,739,567	04/14/1998	Wong		 	
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KBR	A48	5,759,898	06/02/1998	Ek et al.			
	A49	5,786,612	07/28/1998	Otani et al.			
	A50	5,792,679	08/11/1998	Nakato			
	A51	5,808,344	09/15/1998	Ismail et al.			
	A52	5,847,419	12/08/1998	Imai et al.			
	A53	5,877,070	03/02/1999	Goesele et al.			
	A54	5,891,769	04/06/1999	Liaw et al.			
	A55	5,906,708	05/25/1999	Robinson et al.			
	A56	5,912,479	06/15/1999	Mori et al.			
	A57	5,943,560	08/24/1999	Chang et al.			
	A58	5,963,817	10/05/1999	Chu et al.			
\dashv	A59	5,966,622	10/12/1999	Levine et al.			
	A60	5,998,807	12/07/1999	Lustig et al.			
	A61	6,033,974	03/07/2000	Henley et al.			
	A62	6,033,995	03/07/2000	Muller.			
	A63	6,058,044	05/02/2000	Sugiura et al.			
	A64	6,074,919	06/13/2000	Gardner et al.			
\top	A65	6,096,590	08/01/2000	Chan et al.			
<u> </u>	A66	6,103,559	08/15/2000	Gardner et al.	,		
	A67	6,107,653	08/22/2000	Fitzgerald			
	A68	6,117,750	09/12/2000	Bensahel et al.			
	A69	6,130,453	10/10/2000	Mei et al.			
 	A70	6,133,799	10/17/2000	Favors et al.			
 	A71	6,140,687	10/31/2000	Shimomura et al.			

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XAM.		DOCUMENT	DATE	NAME	CLASS	SUB	FILING DATE I
NIT.		NUMBER				CLASS	APPROPRIATE
BD	A72	6,143,636	11/07/2000	Forbes et al.			
1	A73	6,153,495	11/28/2000	Kub et al.			
	A74	6,154,475	11/28/2000	Soref et al.		<u> </u>	
	A75	6,160,303	12/12/2000	Fattaruso			
	A76	6,162,688	12/19/2000	Gardner et al.			
	A77	6,184,111	02/06/2001	Henley et al.			
	A78	6,191,007	02/20/2001	Matsui et al.			
	A79	6,191,432	02/20/2001	Sugiyama et al.			
	A80	6,194,722	02/27/2001	Fiorini et al.			
	A81	6,207,977	03/27/2001	Augusto			
	A82	6,210,988	04/03/2001	Howe et al.			
	A83	6,218,677	04/17/2001	Broekaert			
	A84	6,232,138	05/15/2001	Fitzgerald et al.			
	A85	6,235,567	05/22/2001	Huang			
	A86 -	6,242,324	06/05/2001	Kub et al.			
İ	A87	6,251,755	06/26/2001	Furukawa et al.			
	A88	6,261,929	07/17/2001	Gehrke et al.			
	A89	6,271,551	08/07/2001	Schmitz et al.			
1	A90	6,271,726	08/07/2001	Fransis et al.			
	A91	6,291,321	09/18/2001	Fitzgerald			
	A92	6,313,016	11/06/2001	Kibbel et al.		1	
	A93	6,316,301	11/13/2001	Kant			
$\overline{\mathbf{V}}$	A94	6,323,108	11/27/2001	Kub et al.			



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					1 :	SERIAL N	10.: 10/62	:5,018			
l]	FILING D	ATE: July	y 23, 2003	GROUP	': Not y	et assigned
			U.S.	. PA	TENT I	DOCUMI	ENTS				
EXAM. INIT.		DOCUMENT NUMBER	DATE	1	NAME			CLASS	SUB CLASS		IG DATE IF
KBD	A95	6,329,063	12/11/2001	1	Lo et al.						
	A96	6,335,546	01/01/2002	2 1	Tsuda et	al.					
	A97	6,339,232	01/15/2002	2 1	Takagi						
	A98	6,350,993	02/26/2002	2 (Chu <i>et al</i>	!					
	A99	6,368,733	04/09/2002	2 1	Nishinag	a					
	A100	6,372,356	04/16/2002	2 7	Thornton	et al.					
	A101	6,399,970	06/04/2002	2 I	Kubo <i>et a</i>	al.					
	A102	6,403,975	06/11/2002	2 E	Brunner (et al.					
	A103	6,407,406	06/18/2002	2 7	Tezuka						
	A104	6,425,951	07/30/2002	2 (Chu et al.						
	A105	6,429,061	08/06/2002	2 F	Rim						
	A106	6,521,041	02/18/2003	3 \	Wu et al.						
	A107	6,555,839	04/29/2003	3 E	Fitzgerald						
	A108	6,602,613	08/05/2003	3 E	Fitzgeral	d				01/17	/2001
	A109	2001/0003364	06/14/2001		Sugawara	a et al.					
	A110	2002/0100942	08/01/2001	1 1	Fitzgeral	d et al.					
	A111	2002/0123197	09/05/2002	2 I	Fitzgeral	d et al.					
	A112	2002/0125471	09/12/2002	2 I	Fitzgeral	d et al.					
4	A113	2002/0140031	10/03/2002	2 1	Rim						
	<u>-l,</u>		FOREI	GN I	PATEN	IT DOCU	MENTS	-			
EXAM. INIT.		DOCUMENT NUMBER	DATE	COL	UNTRY	CLASS	SUB CLASS	FILING DATE	ABSTI		ENGLISH LANG (Y/N)
KBD	BI_	41 01 167	07/23/1992	DE		 		1	N		Abstract
	B2 /	0 514 018	11/19/1992	EP		<u> </u>			N		Y
V	B3/	0 587 520	03/16/1994	EP		<u> </u>			N		Y



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			FORE	GN PATEN	T DOCU	MENTS			
EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
UAD	B4 /	0 683 522	11/22/1995	EP			*******	N	Y
	B5	0 828 296	03/11/1998	EP				N	Y
	B6_	0 829 908	03/18/1998	EP				N	Y
	B7 /	0 838 858	04/29/1998	EP				N	Abstract
	B8	1 020 900	07/19/2000	EP	•			N	Y
	B9_	1 174 928	01/23/2002	EP				N	Y
	B10	2 342 7 77	04/19/2000	GB				Y	Y
	BII	-5-166724	07/02/1993	JР	· · · · · · · · · · · · · · · · · · ·			N	Abstract
-	B12	6-177046	06/24/1994	JP				N	Abstract
	B13	6-252046	09/09/1994	JP				Υ	Y
	B14,	7-94420 .	04/07/1995	JP				N	N
	B15	-7-240372	09/12/1995	JP				N	Abstract
	B16	10-270685	10/09/1998	JP	-			N	Y
	B17	2000-021783	01/21/2000	JР				N	Y
	B18	2000-031491	01/28/2000	JР				N	Y
	B19	-2001-319935	11/16/2001	JP				N	Y
	B20	- 2002-076334	03/15/2002	JР				N	Y
	B21	2002-164520	06/07/2002	JP				N	Y
	B22	2002-289533	10/04/2002	JP	 			N	Y
	B23	98/59365	12/30/1998	wo				N	Υ
	B24	-99/53539	10/21/1999	wo				N	Y
	B25	00/48239	08/17/2000	wo				N	Y
	B26	-00/54338	09/14/2000	wo				N	Y
	B27	01/022482	03/29/2001	wo				N	Y
	B28	01/54202	07/26/2001	wo				N	Y
V	B29	01/93338	12/06/2001	wo			-	N	Y
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					SERIAL N	NO.: 10/62	25,018		
					FILING D	ATE: July	y 23, 2003	GROUP:-Not	t yet assigne d
			FOREI	GN PATE	NT DOCU	JMENTS			
EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
KBD	B30	01/99169	12/27/2001	wo	+	 		N	Y
	B31	02/13262	02/14/2002	wo	†		†	N	Y
	B32	02/15244	02/21/2002	wo	1			N	Y
	B33	02/27783	04/04/2002	wo	 	†		N	Y
_	B34	02/47168	06/13/2002	wo			 	N	Y
\dashv	B35	02/071488	09/12/2002	wo			1	N	Y
	B36	02/071491	09/12/2002	wo	1	 		N	Y
	B37	02/071495	09/12/2002	wo				N	Y
V	B38	-02/082514	10/17/2002	wo				N	Y
			OTHER AF	RT, JOURI	NAL ART	ICLES, F	ETC.		
EXAM. INIT.	отн	ER DOCUMEN	TS: (Including	g Author, Tit	tle, Date, Re	levant Pag	es, Place of	Publication)	
KBD	Cl	Armstrong et al., Transistors," <u>IEC</u>	OM Technical D	Digest (1995 I	nternational	Electron D	evices Meet	ting), pp. 761-70	64.
	C2	Armstrong, "Tec Institute of Tech	nology, 1999, p	p. 1-154.					
	C3	Augusto et al., "I MOSFETs witho	out Ion Implanta	ation," <u>Thin S</u>	Solid Films, V	Vol. 294, N	lo. 1-2 (Febi	ruary 15, 1997),	, pp. 254-258.
	C4	Barradas et al., " channels for HM	OS transistors,	" <u>Modern Ph</u> y	ysics Letters	<u>B</u> , Vol. 15	(2001), abst	tract.	
	C5	Borenstein <i>et al.</i> the 1999 12th IE 1999), pp. 205-2	EE International 10.	al Conference	on Micro E	lectro Mech	hanical Syst	tems (MEMs) (J	January 17-21,
	C6	Bouillon et al., "	Search for the		nel architectu	re for 0.18.	/0.12 μm bi	ılk CMOS expe	rimental

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study," <u>IEEE</u> (1996), pp. 21.2.1-21.2.4.

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		OTHER ART, JOURI	NAL ARTICLES, ETC.			
EXAM. INIT.	ОТНЕ	R DOCUMENTS: (Including Author, Ti	tle, Date, Relevant Pages, Place of Publication)			
KBD		Bruel et al., "®SMART CUT: A Promising nternational SOI Conference (October 1995)	New SOI Material Technology," Proceedings of the 1995 IEEE), pp. 178-179.			
		Bruel, "Silicon on Insulator Material Techno 201-1202.	logy," Electronic Letters, Vol. 13, No. 14 (July 6, 1995), pp.			
		Bufler et al., "Hole transport in strained Sil-: /ol. 84, No. 10 (November 15, 1998), pp. 55	xGex alloys on Si1-yGey substrates," <u>Journal of Applied Physics</u> , 197-5602.			
	C10 Burghartz et al., "Microwave Inductors and Capacitors in Standard Multilevel Interconnect Silicon Technology," IEEE Transactions on Microwave Theory and Techniques, Vol. 44, No. 1 (January 1996), pp. 100-104.					
	CII	Canaperi et al., "Preparation of a relaxed Si- levices with strained epitaxial films," Interna	Ge layer on an insulator in fabricating high-speed semiconductor tional Business Machines Corporation, USA (2002), abstract.			
		Carlin <i>et al.</i> , "High Efficiency GaAs-on-Si S 2000 (2000), pp. 1006-1011.	olar Cells with High Voc using Graded Gesi Buffers," IEEE -			
		Chang et al., "Selective Etching of SiGe/Si H January 1991), pp. 202-204.	leterostructures," Journal of the Electrochemical Society, No. 1			
	C14 (Cheng et al., "Electron Mobility Enhancement SGOI) Substrates," IEEE Electron Device L	nt in Strained-Si n-MOSFETs Fabricated on SiGe-on-Insulator etters, Vol. 22, No. 7 (July 2001), pp. 321-323.			
		Cheng et al., "Relaxed Silicon-Germanium o Materials, Vol. 30, No. 12 (2001), pp. L37-L	n Insulator Substrate by Layer Transfer," <u>Journal of Electronic</u> 39.			
	C16 C	Cullis et al., "Growth ripples upon strained S ournal of Vacuum Science and Technology	iGe epitaxial layers on Si and misfit dislocation interactions," A, Vol. 12, No. 4 (July/August 1994), pp. 1924-1931.			
	C17 (Currie et al., "Carrier mobilities and process ubstrates," Journal of Vacuum Science and	stability of strained Si n- and p-MOSFETs on SiGe virtual Technology B, Vol. 19, No. 6 (Nov/Dec 2001), pp. 2268-2279.			
	C18	Currie <i>et al.</i> , "Controlling Threading Disloca Chemical-Mechanical Polishing," <u>Applied P</u>	tion Densities in Ge on Si Using Graded SiGe Layers and hysics Letters, Vol. 72, Issue 14 (04/06/98), pp. 1718-1720.			
	C19 E	Eaglesham <i>et al.</i> , "Dislocation-Free Stranski- Vol. 64, No. 16 (April 16, 1990), pp. 1943-1	Krastanow Growth of Ge on Si(100)," Physical Review Letters, 946.			
	C20 F	Feijoo <i>et al.</i> , "Epitaxial Si-Ge Etch Stop Lay Silicon-on-Insulator," <u>Journal of Electronic N</u>	ers with Ethylene Diamine Pyrocatechol for Bonded and Etchback Materials, Vol. 23, No. 6 (June 1994), pp. 493-496.			
	C21 F	ischetti et al., "Band structure, deformation illoys," Journal of Applied Physics, Vol. 80,	potentials, and carrier mobility in strained Si, Ge, and SiGe No. 4 (August 15, 1996), pp. 2234-2252.			
V	C22 F	ischetti, "Long-range Coulomb interactions is structures," Journal of Applied Physics	in small Si devices. Part II. Effective electronmobility in thin- , Vol. 89, No. 2 (January 15, 2001), pp. 1232-1250.			
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SERIAL NO.: 10/625,018 FILING DATE: July 23, 2003 GROUP: Not yet assigned OTHER ART, JOURNAL ARTICLES, ETC. OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication) EXAM. INIT. Fitzgerald et al., "Dislocation dynamics in relaxed graded composition semiconductors," Materials Science and Engineering, B67 (1999), pp. 53-61. Fitzgerald et al., "Relaxed GexSil-x structures for III-V integration with Si and high mobility two-dimensional electron gases in Si," Journal of Vacuum Science Technology, B 10(4) (Jul/August 1992), pp. 1807-1819. Fitzgerald et al., "Totally Relaxed GexSil-x, Layers with Low Threading Dislocation Densities Grown on Si C25 Substrates," Applied Physics Letters, Vol. 59, No. 7 (August 12, 1991), pp. 811-813. Garone et al., "Silicon vapor phase epitaxial growth catalysis by the presence of germane," Applied Physics Letters, Vol. 56, No. 13 (March 26, 1990), pp. 1275-1277. Gray et al., "Analysis and Design of Analog Integrated Circuits," John Wiley & Sons, 1984, pp. 605-632. C27/ Grützmacher et al., "Ge segregation in SiGe/Si heterostructures and its dependence on deposition technique C28 and growth atmosphere," Applied Physics Letters, Vol. 63, No. 18 (November 1, 1993), pp. 2531-2533. Hackbarth et al., "Alternatives to thick MBE-grown relaxed SiGe buffers," Thin Solid Films, Vol. 369, No. 1-2 (July 2000), pp. 148-151. Hackbarth et al., "Strain relieved SiGe buffers for Si-based heterostructure field-effect transistors," Journal of Crystal Growth, Vol. 201/202 (1999), pp. 734-738. Herzog et al., "SiGe-based FETs: buffer issues and device results," Thin Solid Films, Vol. 380 (2000), pp. 36-Höck et al., "Carrier mobilities in modulation doped Sil-xGex heterostructures with respect to FET C32 applications," Thin Solid Films, Vol. 336 (1998), pp. 141-144. Höck et al., "High hole mobility in Si0.17 Ge0.83 channel metal-oxide-semiconductor field-effect transistors grown by plasma-enhanced chemical vapor deposition," Applied Physics Letters, Vol. 76, No. 26 (June 26, 2000), pp. 3920-3922. Höck et al., "High performance 0.25 µm p-type Ge/SiGe MODFETs," Electronics Letters, Vol. 34, No. 19 (September 17, 1998), pp. 1888-1889. Huang et al., "High-quality strain-relaxed SiGe alloy grown on implanted silicon-on-insulator substrate," C35 Applied Physics Letters, Vol. 76, No. 19 (May 8, 2000), pp. 2680-2682. Huang et al., "The Impact of Scaling Down to Deep Submicron on CMOS RF Circuits," IEEE Journal of C36 Solid-State Circuits, Vol. 33, No. 7 (July 1998), pp. 1023-1036. Ishikawa et al., "Creation of Si-Ge-based SIMOX structures by low energy oxygen implantation," Proceedings of the 1997 IEEE International SOI Conference (October 1997), pp. 16-17. Ishikawa et al., "SiGe-on-insulator substrate using SiGe alloy grown Si(001)," Applied Physics Letters, Vol. 75, No. 7 (August 16, 1999), pp. 983-985. 18/2014 DATE CONSIDERED **EXAMINER**



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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT



ATTORNEY DOCKET NO.: ASC-043C2

APPLICANT(S): Fitzgerald et al.

SERIAL NO.: 10/625,018

FILING DATE: July 23, 2003

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